



Project: \_\_\_\_\_  
 Reference Type: \_\_\_\_\_  
 Item Code: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Notes: \_\_\_\_\_

# CBU-TDP-LR

Bluetooth-controlled Trailing-Edge Dimming Pack



**WARNING**  
 Cancer and Reproductive Harm  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



**Warning!**  
 Hazardous voltages. Risk of electric shock or fire. Only qualified professionals should make the connections. Disconnect the mains power supply and verify its absence prior to installation.

## DISPOSAL INSTRUCTIONS

This electrical product must not be disposed of as unsorted municipal waste. Please dispose of this product correctly: Regulations governing hazardous waste identification, classification, generation, management and disposal, found in title 40 CFR parts 260 through 273, should be observed.

## PRODUCT DESCRIPTION

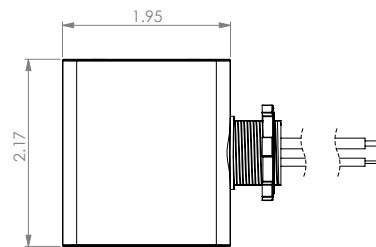
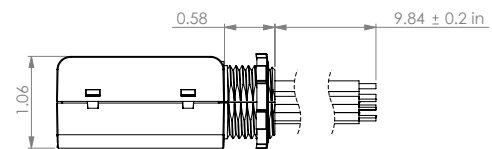
CBU-TDP-LR is a Bluetooth-controlled, long-range, Casambi-enabled, trailing-edge dimmer for incandescent lamps, dimmable LED lamps and dimmable LED control gear. It can be installed outside of a metal switch box, inside a luminaire, or into a ceiling outlet box. Simply remove a standard 1/2" knockout to install the compact module. Maximum allowed ambient temperature must be observed.

CBU-TDP-LR can control up to 50 W at 120 VAC. It features an overcurrent and over temperature protection.

CBU-TDP-LR can be controlled with the Casambi App, available for iOS and Android devices, as well as with traditional wall switches. The Casambi App can be downloaded free of charge from the Apple App Store and Google Play Store.

Different Casambi-enabled products can be used from a simple one-luminaire direct control setup to a complete and full-featured lighting control system, in which up to 250 units automatically form an intelligent mesh network.

## DIMENSIONS (INCH)



## CERTIFICATIONS

FCC ID: 2ALA3-CBUTDPLR  
 IC: 22496-CBUTDPLR  
 UL: 5LE6 / E494741



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**TECHNICAL DATA**

**Input**

- Voltage range: 120 VAC
- Frequency: 60 Hz
- Max. mains current: 0.43 A
- No-load standby power: < 0.3 W

**Output**

- Dimming method: trailing-edge phase control
- Max. output power: 50 W @ 120 VAC
- Max. output current: 0.43 A
- Min. load requirement: 1 W
- Max. load inrush current: 10 A, 100 ms

**Radio Transceiver**

- Operating frequencies: 2.402...2.480 Ghz
- Maximum output power: +8 dBm

**Operating conditions**

- Ambient temperature, ta: -4°F... +113°F (-20°... +45°C)
- Max. case temperature, tc: +167°F (+75°C)
- Location of tc point: Refer to the drawings
- Storage temperature: -13°F... +167°F (-25°C to +75°C)
- Max. relative humidity: 0...80%, non-condensing

**Mechanical data**

- Dimensions:  
 2.2" x 1.9"(2.5" with threaded nipple x 1.1")  
 55.0 x 49.4 (64.2 with threaded nipple) x 27.0 mm
- Weight: 2.9 oz (80 g)
- Degree of protection: IP20 (indoor use only)

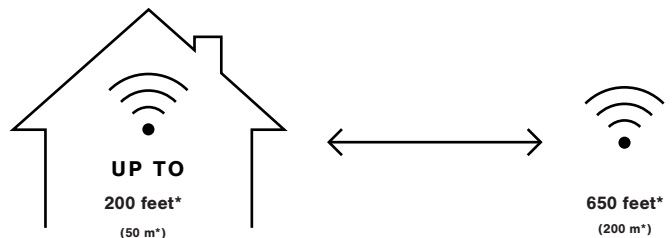
**Wire Connections**

- Wire range, stranded: 16 AWG (1.32 mm<sup>2</sup>)
- Wire (pre-stripped) length: 0.47" (12 mm)

**RANGE**

The range between two CBU-TDP-LR units or between a CBU-TDP-LR and a smartphone can vary a lot depending on the design of a product in which the antennas are housed and on the environment in which they operate. Long-range capabilities can reach approximately 650 feet (200 meters) with a good line of sight connection between nodes. However, if the unit is encapsulated in a metal structure, the range can be only a few feet. Therefore, thorough testing is highly recommended.

Casambi uses mesh network technology, which means that each CBU-TDP-LR also acts as a repeater. When testing the network, it is important to test that each unit can be controlled from any point in the network-covered area.



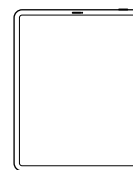
\*The wireless range of a Casambi unit is dependent on several factors; how it has been integrated into a luminaire, where it has been installed; taking into consideration surrounding obstacles such as walls and other building materials that may block signals.

**COMPATIBLE DEVICES**



Compatible devices: Android and iOS Operating Systems.

We support the latest OS versions for Android and iOS, and their last two major versions respectively.



Tablets



Smartphones





Project: \_\_\_\_\_

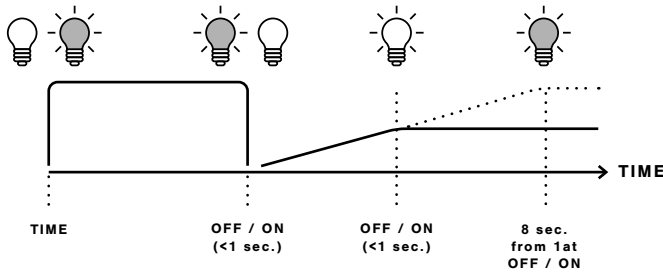
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**DIMMING WITHOUT APP**



1. Turn lights on from a wall switch.
2. Quickly flick the wall switch off (max. 1sec.) and back on. The light level starts to increase gradually.
3. Flick the switch again at the desired dim level. The selected level is saved automatically.
4. If the second flick is not done within 8 seconds, the light intensity reaches its maximum level.
5. Flicking the switch can also be used to switch between predefined scenes.



**Warning!**

Using CBU-TDP-LR with maximum load will make it hot. Make sure to place the product in well-ventilated space and away from any flammable material.



**INSTALLATION**

Make sure that the mains voltage is switched off before making any connections. Use 16–20 AWG solid conductor electrical wires. Strip the wire 0.24” - 0.32” from the end.

Make sure to connect the input and output correctly. Input (mains) has two wires color coded with black (L) and white (N). Connect the load to the red (L) and white (N) wires. The same white (N) wire is used to connect mains and load.

If you install the dimmer into a heat sensitive environment (e.g. inside a luminaire or in a ceiling outlet box above a luminaire), make sure that the ambient temperature does not exceed the specified maximum value. Using the dimmer in a heat sensitive environment may limit the maximum output power.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna,
- Increase the separation between the equipment and the receiver,
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected,
- Consult the dealer or an experienced radio/TV technician for help.

Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

This device complies with Industry Canada’s license-exempt RSSs. Operation is subject to the following two conditions:

- (1) This device may not cause interference; and
- (2) This device must accept any interference received, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d’Industrie Canada applicables aux appareils radio exempts de licence. L’exploitation est autorisée aux deux conditions suivantes:

- (1) l’appareil ne doit pas produire de brouillage;
- (2) l’utilisateur de l’appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d’en compromettre le fonctionnement.



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**TYPE OF LOAD**

- Incandescent and high voltage halogens
- Dimmable LED bulbs (C) 1)
- Dimmable CFL bulbs (C) 1)
- Trailing edge dimmable LED drivers 1)
- Low voltage halogens with electronic transformers
- High voltage AC LED modules 1)
- Wire wound transformers, electric motors and other inductive loads
- Non-dimmable fluorescent lamps, LED and CFL bulbs

**MAX. LOAD**

- 50 W
- 50 W
- 50 W
- 50 W
- 50 W
- 50 W
- Not allowed
- Not allowed

Never connect inductive loads, such as iron core transformers. This could cause permanent damage to the dimmer. Do not mix different types of loads.

1) Dimming quality depends solely on the load electronics.  
 Do not mix different types of bulbs or loads.  
 Some luminaires may flicker at low dimming



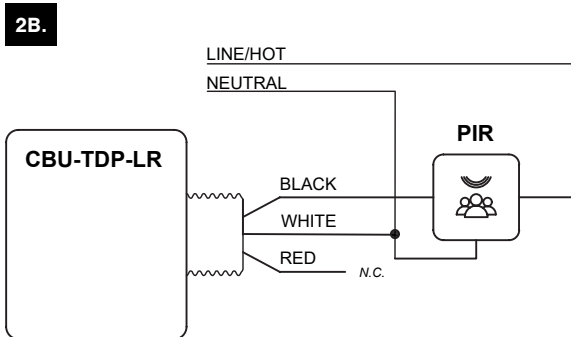
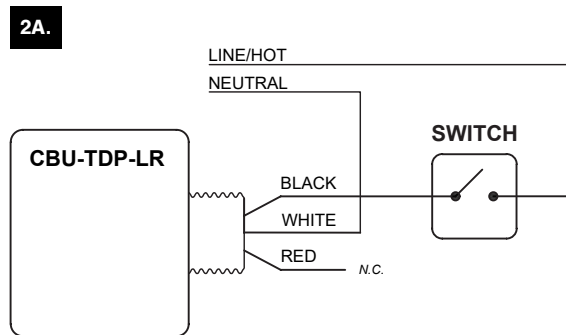
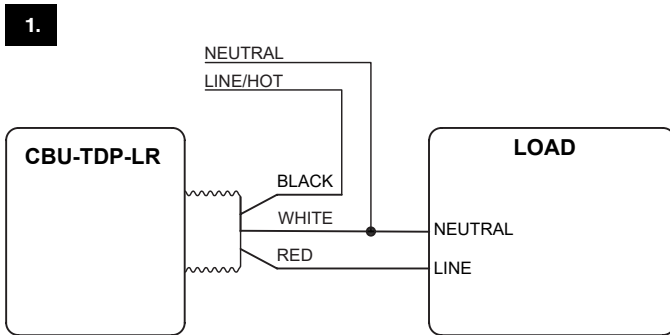
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## FIXTURE PROFILES

Profile#	Profile name / in app description	Description	Wiring	Physical Use / Type of device connected
26350*	CBU-TDP-LR	Trailing edge phase cut dimmer for 50/60Hz load. Light level is controllable with a slider in the Casambi App. Dimming curve is optimized by Casambi for majority of use cases.	1	
26351	CBU-TDP-LR (Linear)	Trailing edge phase cut dimmer for 50/60Hz load. Light level is controllable with a slider in the Casambi App. Dimming curve in this profile is linear.	1	
26352	CBU-TDP-LR (Log)	Trailing edge phase cut dimmer for 50/60Hz load. Light level is controllable with a slider in the Casambi App. Dimming curve in this profile is logarithmic.	1	
26353	CBU-TDP-LR Presence	CBU-TDP-LR acting as a presence sensor or Casambi enabled switch. The fixture provides presence information to mesh network when the CBU-TDP-LR is powered up.	2A, 2B	

\* Default profile

## WIRING DIAGRAMS



### Warning!

Changes or modifications not expressly approved by Casambi Technologies Oy could void the user's authority to operate the equipment.